

A. CLASSIFICATION SUBJECT MATTER  
IPC 7 C3 02 C30B25/18 H01L21/205

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C30B H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	LIU L ET AL: "Substrates for gallium nitride epitaxy" MATERIALS SCIENCE AND ENGINEERING R: REPORTS, ELSEVIER SEQUOIA S.A., LAUSANNE, CH, vol. 37, no. 3, 30 April 2002 (2002-04-30), pages 61-127, XP004349792 ISSN: 0927-796X page 112 -page 115	1-29
A	EP 1 164 210 A (SHARP KK) 19 December 2001 (2001-12-19) paragraph '0030! - paragraph '0046! -/-	1

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

29 April 2004

Date of mailing of the international search report

07/05/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Cook, S

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 03/15905

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97/13891 A (GRZEGORY IZABELLA ;KRUKOWSKI STANISDAW (PL); STEPNIIEWSKI ROMAN (PL) 17 April 1997 (1997-04-17) examples 1,2 -----	1-5
A	FR 2 796 657 A (THOMSON CSF) 26 January 2001 (2001-01-26) the whole document -----	23
A	US 6 488 767 B1 (VAUDO ROBERT P ET AL) 3 December 2002 (2002-12-03) column 2, line 16 -column 3, line 50 -----	1
A	US 6 355 497 B1 (WALKER JACK ET AL) 12 March 2002 (2002-03-12) paragraph '0002!', sentence 5 - sentence 37 -----	1
P,A	WO 02/101124 A (KANBARA YASUO ;NICHIA CORP (JP); DORADZINSKI ROMAN (PL); AMMONO SP) 19 December 2002 (2002-12-19) cited in the application -----	
P,A	WO 02/101120 A (KANBARA YASUO ;NICHIA CORP (JP); DORADZINSKI ROMAN MAREK (PL); DWI) 19 December 2002 (2002-12-19) cited in the application -----	

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 03/15905

Patent cited in search report		Publication date		Family member(s)	Publication date
EP 1164210	A	19-12-2001	GB	2363518 A	19-12-2001
			EP	1164210 A2	19-12-2001
			JP	2002080298 A	19-03-2002
			US	2002015866 A1	07-02-2002
WO 9713891	A	17-04-1997	AU	7346396 A	30-04-1997
			WO	9713891 A1	17-04-1997
FR 2796657	A	26-01-2001	FR	2796657 A1	26-01-2001
US 6488767	B1	12-12-2002	US	2002185054 A1	12-12-2002
			EP	1404902 A1	07-04-2004
			WO	02101121 A1	19-12-2002
			US	2003127041 A1	10-07-2003
US 6355497	B1	12-03-2002	JP	2001257193 A	21-09-2001
WO 02101124	A	19-12-2002	PL	347918 A1	16-12-2002
			CN	1463307 T	24-12-2003
			CN	1463308 T	24-12-2003
			CN	1463309 T	24-12-2003
			EP	1405936 A1	07-04-2004
			WO	02101120 A2	19-12-2002
			WO	02101124 A1	19-12-2002
			WO	02101125 A1	19-12-2002
			WO	02101126 A1	19-12-2002
			JP	2003040699 A	13-02-2003
			TW	546272 B	11-08-2003
			US	2002192507 A1	19-12-2002
			US	2002189531 A1	19-12-2002
WO 02101120	A	19-12-2002	PL	347918 A1	16-12-2002
			PL	350375 A1	05-05-2003
			CN	1463307 T	24-12-2003
			CN	1463308 T	24-12-2003
			CN	1463309 T	24-12-2003
			EP	1405936 A1	07-04-2004
			WO	02101120 A2	19-12-2002
			WO	02101124 A1	19-12-2002
			WO	02101125 A1	19-12-2002
			WO	02101126 A1	19-12-2002
			JP	2003040699 A	13-02-2003
			TW	546272 B	11-08-2003
			US	2002192507 A1	19-12-2002
			US	2002189531 A1	19-12-2002
			WO	03043150 A1	22-05-2003
			WO	03036771 A1	01-05-2003
			WO	03035945 A2	01-05-2003